

Claims

1. A method for modification and isolation of a protein, especially whey or soy proteins, characterized in that:
- 5 a) a protein, such as whey or soy or concentrate thereof, is brought into contact with a reagent that forms sulfite ions in order to sulfonate the protein without using oxidizing agent, and
- b) the protein once sulfonated is precipitated at an acid pH, and
- c) the sulfonated protein or the precipitated and/or soluble sulfonated protein is
- 10 recovered and optionally processed further.
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2. A method according to claim 1, characterized in that whey or a concentrate thereof is brought into contact with a reagent that forms sulfite ions in order to sulfonate the protein at a temperature of 40 - 65 °C, preferred is 50 - 60 °C.
3. A method according to claim 1 or claim 2, characterized in that the protein content of the whey concentrate is 9 - 12 % by weight.
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4. A method according to claim 1, characterized in that soy or a concentrate thereof is brought into contact with a reagent that forms sulfite ions in order to sulfonate the protein at a temperature of 60 - 80 °C, preferred is 65 - 75 °C.
5. A method according to claim 1, 2, ~~3~~ or 4, characterized in that at (a) the pH is adjusted to 5,5 - 8, preferred is 6 - 7.
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6. A method according to one claim ⁵ characterized in that in the sulfonation in stage (a) sulfite is used at a concentration of 0,02 - 0,20 M, preferred is 0,05 - 0,10 M.
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7. A method according to claim 1, characterized in that the sulfonation degree of the protein is affected by varying reaction conditions and amount of reagents used.
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8. A method according to claim 1, characterized in that the sulfonated proteins are precipitated as fractions of varying composition by adjusting the pH.
9. A method according to claim 8, characterized in that the sulfonated proteins are precipitated by lowering the pH to 1,5 - 5,5, preferred is 4,0 - 5,0.

10. A method according to claim 1, characterized in that from the sulfonated proteins or from the precipitated and/or soluble sulfonated protein the sulfone groups are removed and from the same solution the sulfites by lowering the pH to about 1,5 - 4 whereby both are liberated as sulfur dioxide and free sulphydryl groups are created in the protein.

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11. A method according to claim 1 or claim 10, characterized in that the remaining sulfite is oxidized to sulfate by blowing air into the mixture at pH 4 - 7.

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12. A method according to claim 1, characterized in that disulfide groups are formed again from the free sulphydryl groups by blowing air into the protein mixture at pH 4,5 - 8,5 and at a temperature of 45 - 75 °C.

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POLYESTER POLYAMIDE